SCIENCE.

FRIDAY, JUNE 5, 1885.

COMMENT AND CRITICISM.

THE APRIL ISSUE of the *Zoophilist* is very much a Baltimore number, from the space given to Professor Martin, and to the 'martyrdom' of Prof. J. Rendel Harris. Professor Martin's reply to some strictures made upon his work in an earlier issue of the same journal is treated as 'an angry, exaggerated, and absurd pamphlet' by various writers. We have already made, as we believe, suitable mention of the pamphlet in question, but return to the controversy again because the *Zoophilist* offers so clear an illustration of the unfair and ungenerous methods which find favor with the antivivisectionists. Many of these persons hold views, such that, however much we may disagree with them, they are entitled to respect — and silence. When, however, any person having 'views' is not only unable to perceive that an opponent may be equally earnest and upright, but also uses the press to show him up as a prevaricator, or, more plainly, as a liar, it is time for self-respecting persons to speak out.

The points in the discussion are briefly these: Professor Martin published some experiments which physiologists, and other medical men familiar with experimental work, — i.e., those persons most competent to sit in judgment thereon, — consider a valuable addition to our knowledge of the working of the animal body both in health and disease. In his account of his work — written for these same competent observers, and published where perfect candor and fulness are a matter of professional honor, so to speak — it is expressly stated that these animals were all put under the influence of undoubted anaesthetics or narcotics, except in two instances, where curare was used in order to be certain that the other drugs had not injured the organ under investigation. The *Zoophilist* people claimed, that, as he used artificial respiration in every experiment, he must also have employed curare in those other cases where it is not mentioned, and made other statements concerning the investigations, which show that a knowledge of some of the most elementary principles of physiology is sadly wanting in the editorial rooms of that paper. The effort to fall back upon information furnished by 'an eminent physiologist' would inevitably result in making him ridiculous, if the mention of his name could be permitted. Professor Martin's reply clearly set forth the nature of the operations performed, and especially the necessity of the tracheotomy and artificial respiration, since he wished to rapidly kill every organ except the lungs and the heart. The *Zoophilist* returns to the attack; but this is a mere reiteration of its former absurdities, with some added excrescences suggested by fresh and perverse misunderstandings of Professor Martin's explanations.

This may, perhaps, seem a trifling matter, but such it is not. Everywhere else, when divergency of views exists, opponents certainly agree to consider each other honest and frank. Such odium as their experimental work may call forth from the unthinking or ignorant mind, and more especially from the feminine type of it, the physiologists can readily endure, but they do fairly claim the right to be looked upon as men of at least as much candor and uprightness as those who oppose their research and yet expect to be classed among the educated and thoughtful. It is the duty of all workers in the different fields of science to stand together in such things, and to insist upon fair and just treatment from these ignorant critics who have the ear of that portion of the public with whom feeling and sentiment are on an equality with knowledge, and abusive misrepresentation passes for argument.

Mr. R. A. Proctor attempts to explain how earthquakes are caused, in the June number of *Harper's magazine*, and attributes their energy to the action of interior heat on percolating water, and their opportunity to the time of changing pressures caused by atmospheric or tidal loading and unloading of the sensitive crust of the earth. Formidable numbers represent the tons of air or water brought on or taken off certain parts of the earth's surface in the passage of cyclones and anticyclones, and in the rise and fall of tides: but it may be strongly questioned whether these changes of pressure are very effective in determining the time of earthquake snaps; for the changes are gradual and short-lived, the pressures are relatively light, and the surfaces on which they have effect are so broad that the extremely small deformation needed for adjustment of equilibrium might be produced without any cracking or snapping. The omission of clear reference to orogenic earthquakes in such an article is very unfortunate, for Mr. Proctor will have many readers who take him for an authority on such matters; and, in the present attitude of seismology, the orogenic theory is certainly strongly supported by those who give the study the closest attention. It is rather remarkable to find no reference to gravitative distortions of the earth's crust, except in explaining the heat of the interior, after Mallet's method, and no mention of earthquakes following the making of cracks that are freely assumed as the passages by which water enters the subterranean regions, there to be exploded into steam.

LETTERS TO THE EDITOR.

**** *Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

Real and imaginary Americanisms.

In the *verbatim* report of Sir William Thomson's famous Baltimore lectures occurs the expression, "and that is why I cannot get the electromagnetic theory." To this, Mr. George Forbes, in his commentary in *Nature* for April 30, appends a footnote: "These reports are generally quite *verbatim;* but I am sure Sir William Thomson is not responsible for this characteristic Americanism." Is it not, rather, a Scotticism? It is no Americanism at all. Although an American of long standing and considerable observation in such matters, I never heard 'get' by itself used in the sense of 'comprehend' or 'understand.' To 'get hold of,' is a not uncommon colloquial form. But in the same paragraph Mr. Forbes passes unnoticed a real and most prevalent Americanism: 'I do not think I *would* like to suggest,' etc. And again, at the close of the lectures: "I *would* be most happy to look forward to another conference." This substitution of 'would' for 'should' we should charge to the reporter, and feel sure that he was born west of New England and New York, where the just distinction between 'will' and 'shall,' 'would' and 'should,' is innate, while it is lost farther west and south. But the confusion is reaching England, as some recent books and newspapers show. I do not believe that Sir William Thomson has caught the prevalent epidemic, much as he has been in the affected districts. A. G.

The cholera bacillus.

The exact *rôle* of the 'comma bacillus' in the etiology of cholera Asiatica remains unsettled. Arguments for and against the conclusions of Koch are perhaps equally strong on both sides, as evidenced by the discussions in the conferences on cholera held in Berlin, Munich, and London. Inoculation which completes the chain of evidence required to make good Koch's case, has in his hands, and in those of Nicati, Rietsch, Ermengen, Babes, and Watson Cheyne, produced positive results. Dr. Crookshank of King's college hospital, London, who has been working in the bacteriological laboratory here, and to whom I am indebted for the accompanying drawings, tells me that in Babes's cases three guinea-pigs, out of six

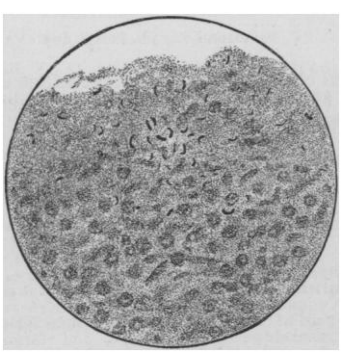

Fig. 1. — Section of intestine in cholera showing Koch's bacilli in the superficial layers.

inoculated in the duodenum, presented the lesions of cholera; and pure cultivations of the bacillus of Koch were obtained from the intestinal contents. Koch has just introduced a new method of operation without the production of any external lesion, and he reports the cases as completely confirming the view of the pathogenic nature of the bacillus. Klein and Gibbs have denied the existence of the cholera bacillus in the intestinal tissue. On the other hand, since Koch's original proof, they have been demonstrated by Babes, and confirmed by Crookshank, by staining the sections after the method introduced by Babes (*vide* figure). This consists in cutting very thin sections in close proximity to a Peyer's patch, placing it in an aqueous solution of good fuchsin for twenty-four hours, washing in a sublimate solution (1–1000),